WHAT IS CLAIMED IS:

1. A network relay installation that has a plurality of ports for mutually connecting a plurality of network segments, and outputs packets to be input to/output from a port that becomes a monitored port, from a port that becomes a monitoring port to a monitoring unit, wherein

each of said plurality of ports comprises:

an address resolution processing section that transfers output destination port information that specifies an output destination port and a monitoring port, to a forwarding processing section, and at the same time, adds control information that contains information showing whether the self port is in the status of being set up as a monitored port or not and transformation information for transforming packets, to the received packets when the packet transformation is necessary, and transfers the transformed packets to the forwarding processing section, when the self or the output destination port is in the status of being set up as a monitored port when the packets have been received from said network segment;

an output processing section that decides whether received packets are from the monitored port or not by referring to the control information when the self port is in the status of being set up as a monitoring port at the time when the packets added with the control information and the transformation information have been input from said forwarding processing section, and transforms the packets based on the transformation information and transmits the

transformed packets to said monitoring unit when the received packets are not from the monitored port, and transmits the packets to said monitoring unit without transforming the packets when the received packets are from the monitored port; and

said forwarding processing section that transfers the packets added with the control information and the transformation information to a designated port, according to the output destination information input from said address resolution processing section.

2. The network relay installation according to claim 1, wherein when the self port is in the status of not being set up as a monitoring port at the time when the packets added with the control information and the transformation information have been input from said forwarding processing section, said output processing section transforms the packets based on the transformation information, and transmits the transformed packets to the network segment.

3. The network relay installation according to claim 1, wherein the control information includes a flag that shows a valid status when the self port has been set up as a monitored port and that shows an invalid status when the self port has not been set up as a monitored port.

4. The network relay installation according to claim 1, wherein it is possible to optionally set up said monitored port and said monitoring port at said plurality of ports.

5. A port monitoring method for monitoring a port that outputs packets to be input to/output from a specific port from a monitoring port, out of a plurality of ports for mutually connecting a plurality of network segments, the port monitoring method comprising the steps of:

transferring, at each port, output destination port information that specifies an output destination port and a monitoring port, to a forwarding processing section, and at the same time, adding control information that contains information showing whether the self port is in the status of being set up as a monitored port or not and transformation information for transforming packets, to the received packets when the packet transformation is necessary, and transferring the transformed packets to the forwarding processing section, when the self or the output destination port is in the status of being set up as a monitored port when the packets have been received from the network segment;

transferring, at said forwarding processing section, the packets added with the control information and the transformation information to a designated port, according to the output destination information; and

deciding whether received packets are from the monitored

port or not by referring to the control information when the self port is in the status of being set up as a monitoring port at the time when the packets added with the control information and the transformation information have been input from said forwarding processing section, and transforming the packets based on the transformation information and transmitting the transformed packets to said monitoring unit when the received packets are not from the monitored port, and transmitting the packets to said monitoring unit without transforming the packets when the received packets are from the monitored port.

6. A program for making a computer execute a port monitoring method for monitoring a port that outputs packets to be input to/output from a specific port from a monitoring port, out of a plurality of ports for mutually connecting a plurality of network segments, the program for making a computer execute the steps of:

transferring, at each port, output destination port information that specifies an output destination port and a monitoring port, to a forwarding processing section, and at the same time, adding control information that contains information showing whether the self port is in the status of being set up as a monitored port or not and transformation information for transforming packets, to the received packets when the packet transformation is necessary, and transferring the transformed packets to the forwarding processing section, when the self or the

output destination port is in the status of being set up as a monitored port when the packets have been received from said network segment;

transferring, at said forwarding processing section, the packets added with the control information and the transformation information to a designated port, according to the output destination information; and

deciding whether received packets are from the monitored port or not by referring to the control information when the self port is in the status of being set up as a monitoring port at the time when the packets added with the control information and the transformation information have been input from said forwarding processing section, and transforming the packets based on the transformation information and transmitting the transformed packets to the monitoring unit when the received packets are not from the monitored port, and transmitting the packets to said monitoring unit without transforming the packets when the received packets are from the monitored port.